

APPENDIX A: ALTERNATIVE FORECAST SCENARIOS

Uncertainty exists in all industries, but especially in the commercial air travel industry. As volatility in the global environment has increased, the importance of scenarios for planning purposes has increased. In order to help stakeholders better prepare for the future, the FAA has begun to provide alternative scenarios to our baseline forecasts of airline traffic and capacity.

To create the baseline domestic forecast, economic assumptions for both U.S. and international regions from IHS Global Insight's 30-Year Focus (released fourth quarter 2012) were used to generate enplanements, mainline real yield and nominal yield. To develop the alternative scenarios, assumptions from the optimistic and pessimistic scenarios contained in IHS Global Insight's 10 year alternatives from their January 2013, U.S. forecast were used. The January 2013 forecast reflected the incorporation of the "fiscal cliff" deal that was agreed to on New Year's Day. Inputs from these scenarios were substituted for the baseline scenario inputs to create a "high" and "low" traffic, capacity, and yield forecast.

International passengers and traffic are primarily determined by country specific Gross Domestic Product (GDP) provided by IHS Global Insight. Thus, the baseline forecast of GDP for both the U.S. and international regions is modified using the optimistic and pessimistic forecasts of GDP described above in order to create a high and low case. Since only the ten year alternative GDP forecasts by Global Insight were available at the time of this analysis, both the domestic and international optimistic and pessimistic scenarios extend to 2022 only.¹⁷

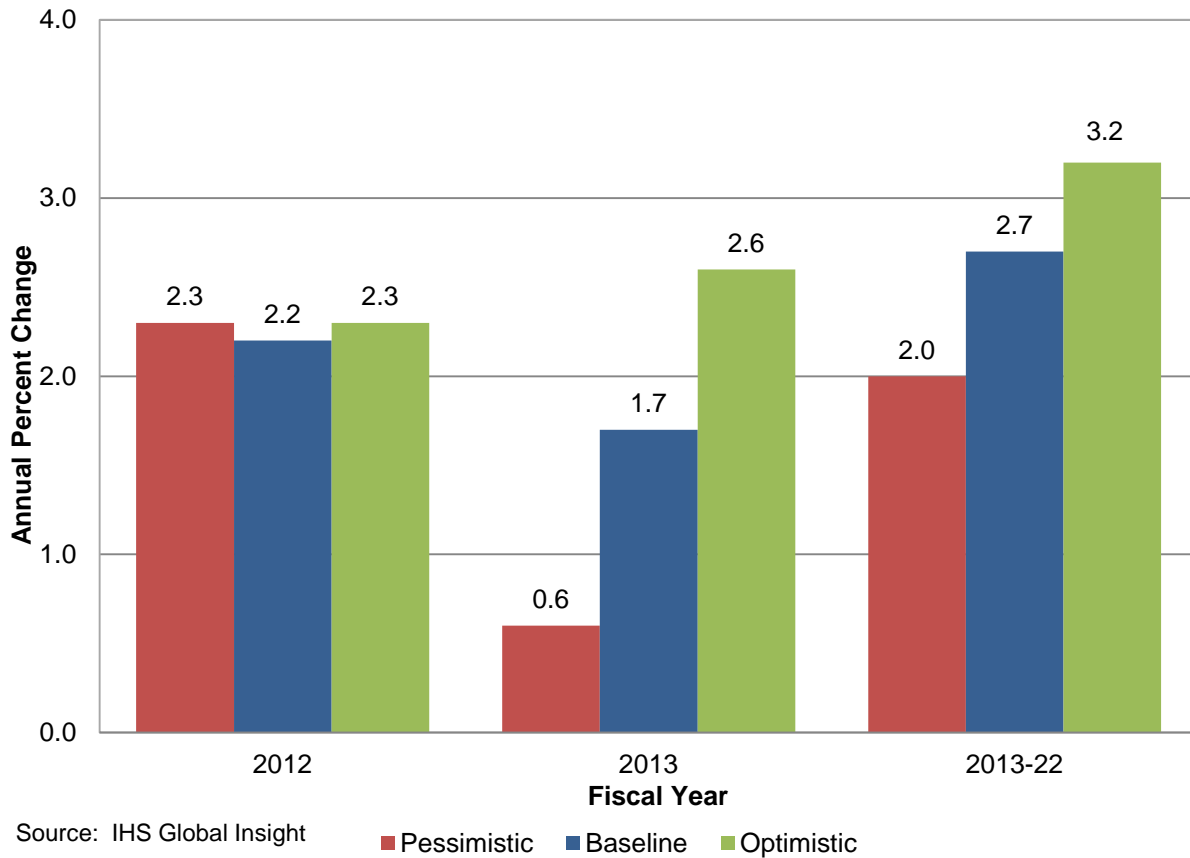
Scenario Assumptions

The FAA's baseline forecast assumes that the economy recovers from the current downturn and suffers no major mishaps such as large oil price shocks, swings in macroeconomic policy, or financial meltdowns. The FAA's high case forecast uses IHS Global Insight's optimistic forecast. The optimistic forecast sees faster employment growth and sustained improvements in the housing sector leading to a stronger economy. A credible plan for long-term deficit reduction is enacted, and policy decisions in both Europe and China boost the global economic outlook. In this scenario GDP and real DI growth are about 0.5 and 0.8 percentage points, respectively, faster per year than the baseline forecast and unemployment averaging 1.5 points lower on an annual basis than the baseline (Real DI and unemployment are used as an input variables to the FAA's base, high and low forecasts of enplanements). Conversely, FAA's low case forecast uses IHS Global Insight's pessimistic scenario. In the pessimistic forecast, the U.S. is not able to avoid a prolonged fight over the debt ceiling and in the face of uncertainty,

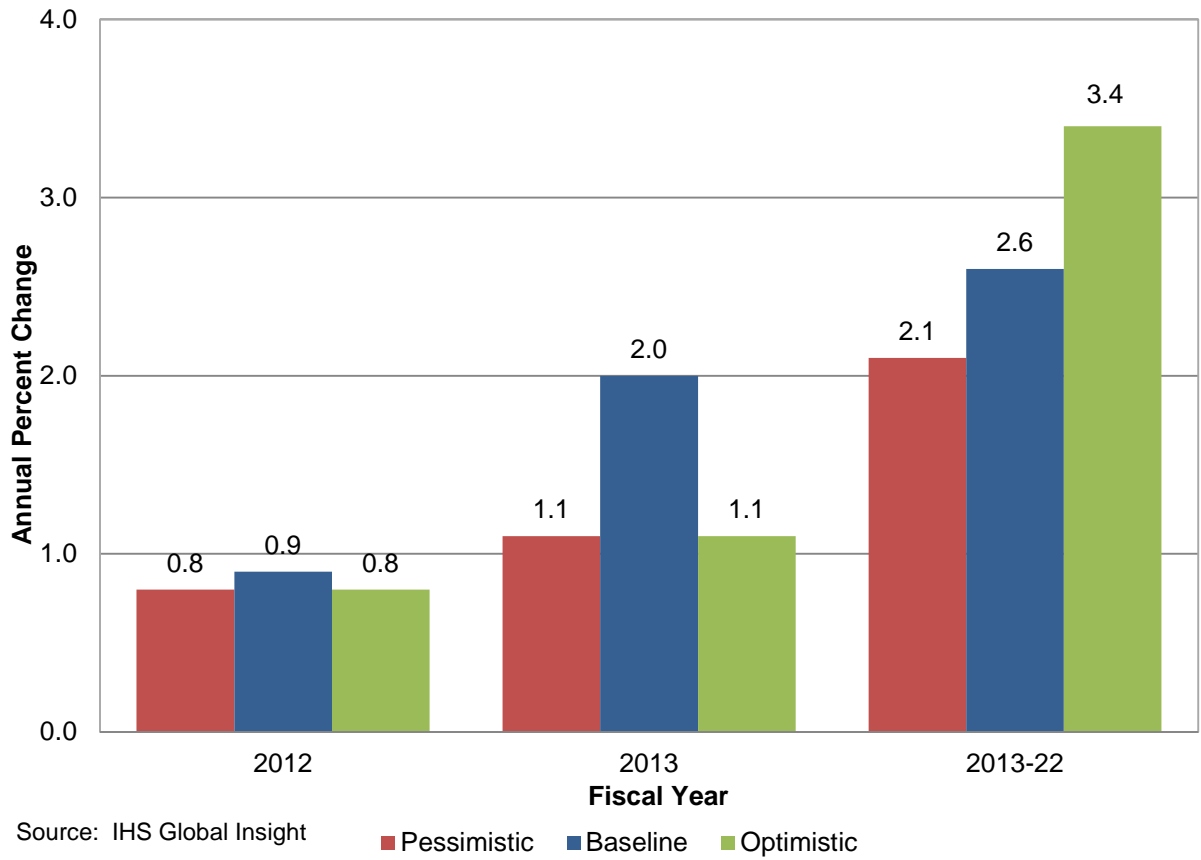
¹⁷ IHS Global Insight, Short-term macro forecast – baseline and alternatives, released January 4, 2013.

policymakers decide to cut spending. The Eurozone crisis intensifies which reduces the demand for U.S. exports. As the private sector cuts back, housing activity begins to slow and credit dries up, pushing the U.S. economy into a mild recession in early 2013. In this scenario, GDP and real DI grow 0.7 and 0.5 percentage points, respectively, slower per year than in the baseline, and unemployment, on average, is 1.4 points higher on an annual basis than in the baseline.

Real Gross Domestic Product

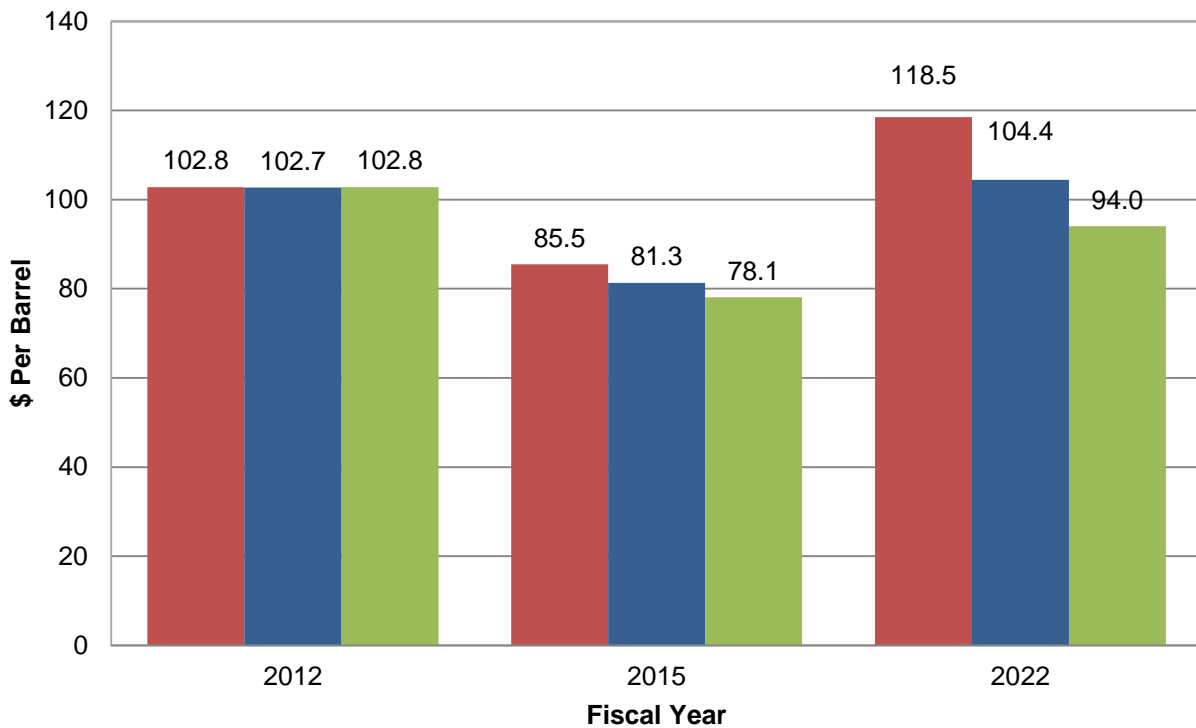


Real Disposable Personal Income



Oil prices affect the supply of and demand for air travel and have a direct impact on the profitability of the industry. In all three forecast scenarios prices fall over the next few years. In the baseline forecast, oil prices are kept in check as technological improvements act as a counterbalance to rising prices. In the baseline, the refiners acquisition cost (RAC) of oil increases only 1.7 percent between 2012 and 2022, rising from \$103 to \$104 per barrel. In the optimistic case, the price of oil (RAC) decreases at a faster pace through 2015 than in the baseline forecast and then rises more slowly thereafter, resulting in a price of \$94 per barrel by 2022. The high case is characterized by availability of energy, further gains in technology, and a stronger dollar which help to temper prices compared to the baseline. In the low case forecast, a weaker dollar and lower productivity gains create upward pressure in oil prices after 2015. In this scenario, the RAC rises by 38 percent over its 2015 low to \$119 by 2022.

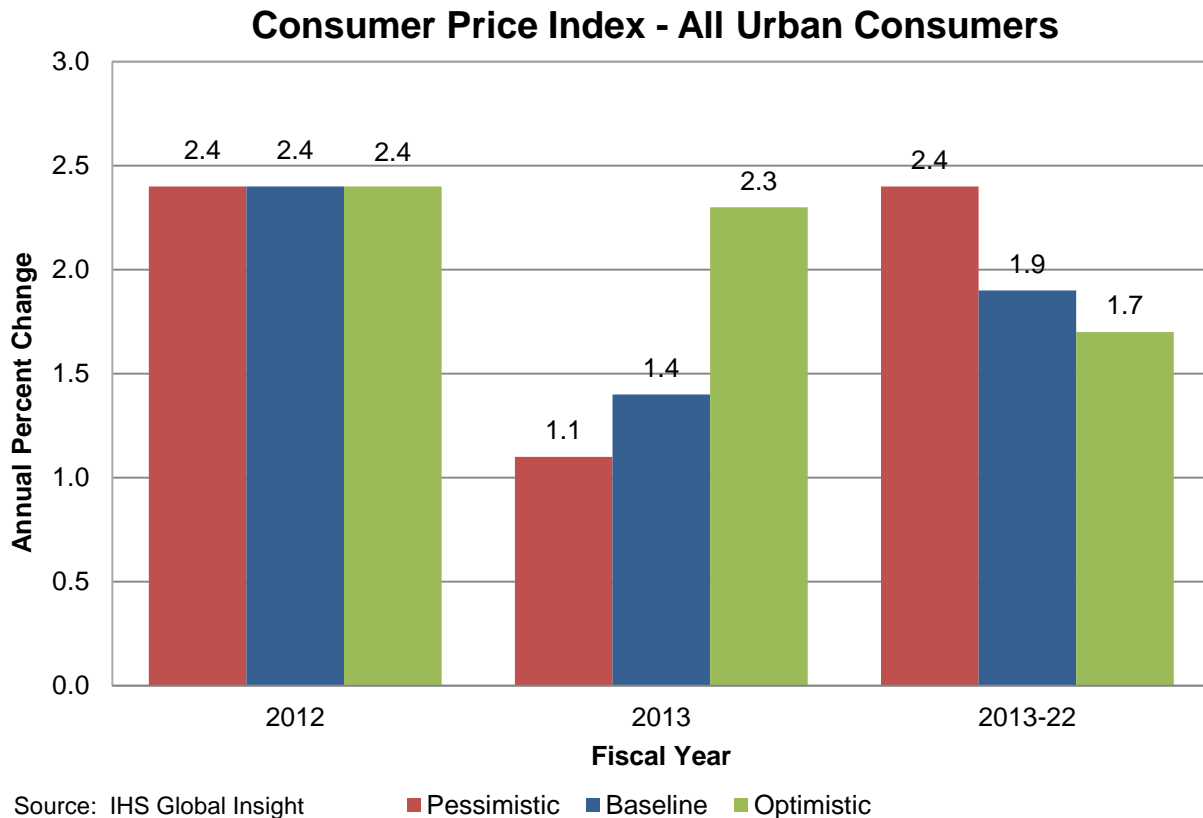
U.S. Refiners' Acquisition Cost



Source: IHS Global Insight

■ Pessimistic ■ Baseline ■ Optimistic

The price of energy is one of the critical drivers in the growth of consumer prices over the forecast period. In the optimistic case the consumer price index (CPI) grows at an average rate of 1.7 percent per year (compared to growth of 1.9 percent annually in the baseline) as energy prices, wages, and import prices grow more slowly than in the baseline. In the pessimistic case forecast the opposite holds with energy prices, wages and import prices rising more rapidly compared to the baseline. As a result, in the pessimistic case, the CPI grows an average of 2.4 percent annually over the forecast period.

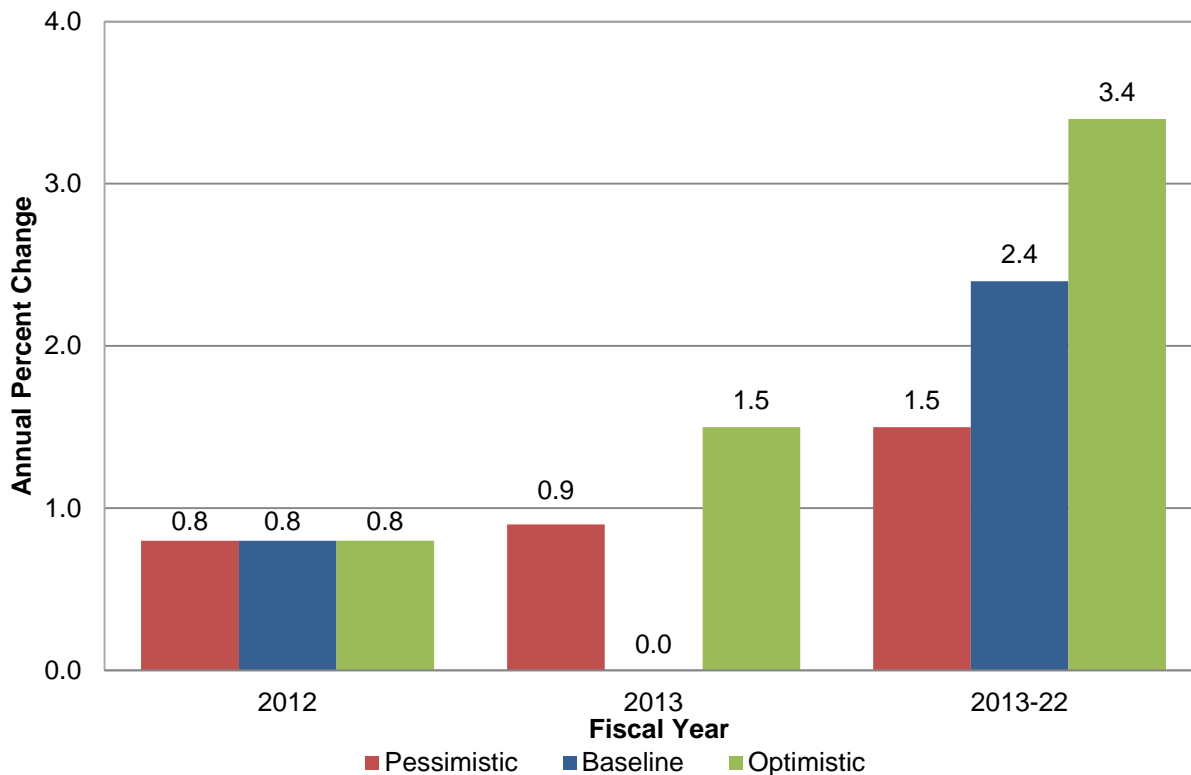


Alternative Forecasts

Passengers

In the baseline forecast, system passengers are forecast to grow at an average annual rate of 2.4 percent a year over the forecast horizon of 2013-2022 (with domestic and international passengers up 2.2 and 4.2 percent, respectively). In the optimistic case, passengers grow at a quicker pace, averaging 3.4 percent per year (up 3.2 percent domestically and 4.7 percent internationally). This scenario is marked by a more favorable business environment, lower inflation, and lower fuel prices which make the price of flying more affordable to business and leisure travelers. By the end of the forecast period in 2022, passengers in the optimistic case are 10.3 percent above the baseline. The pessimistic case is characterized by a mild recession in 2013 along with weakened consumer confidence brought on by persistent unemployment, higher energy prices, and higher inflation. In this scenario passengers grow an average of 1.3 percent per year (domestic up 1.1 percent and international up 2.8 percent). In the pessimistic case, system passengers in 2022 are 8.7 percent below the baseline case, totaling 835 million, 80 million fewer than in the baseline.

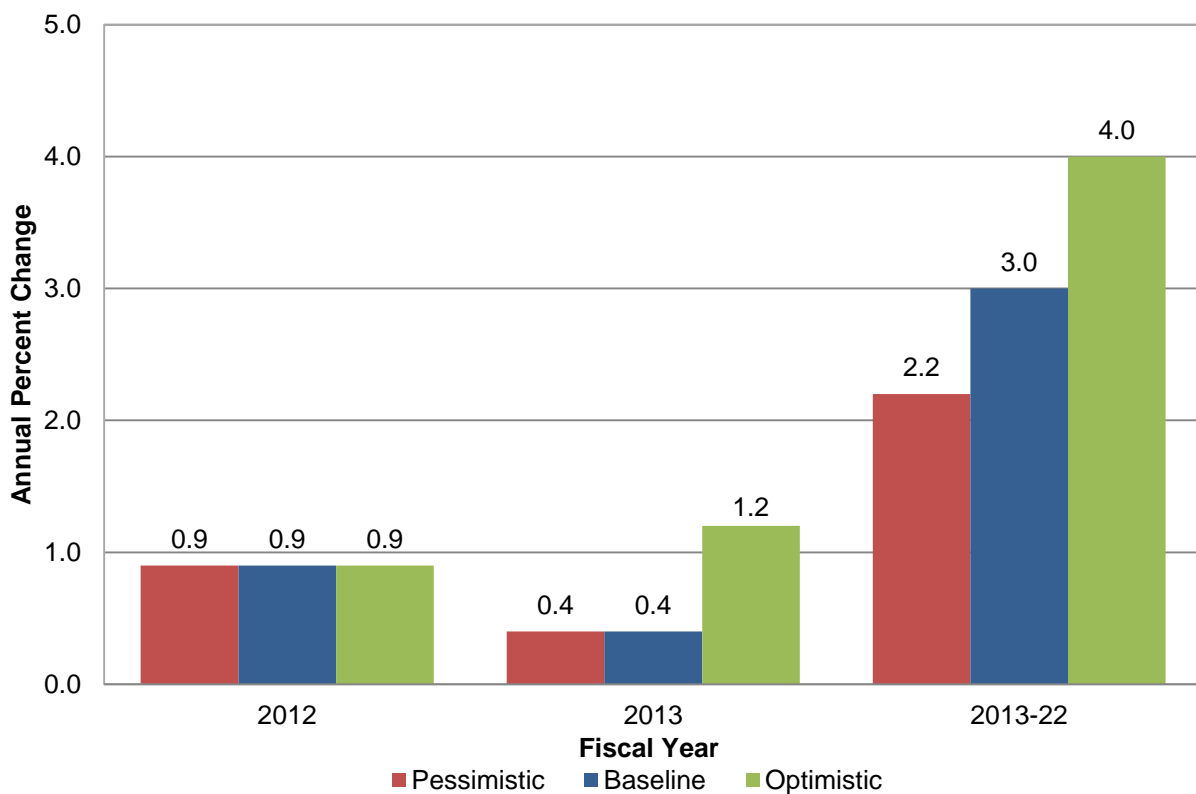
System Enplanements



Revenue Passenger Miles

In the baseline forecast, system RPMs grow at an average annual rate of 3.0 percent a year over the forecast horizon, with domestic RPMs increasing 2.4 percent annually and international RPMs growing 4.5 percent annually. In the optimistic case, the faster growing economy coupled with lower energy prices drives RPMs higher than the baseline, with growth averaging 4.0 percent per year (domestic and international RPMs up 3.6 and 5.0 percent, respectively). In the pessimistic case, the combination of a slower growing economy and higher energy prices result in RPM growth averaging 1.7 percent annually with domestic markets growing 1.1 percent a year while international traffic grows 2.9 percent annually.

System Revenue Passenger Miles

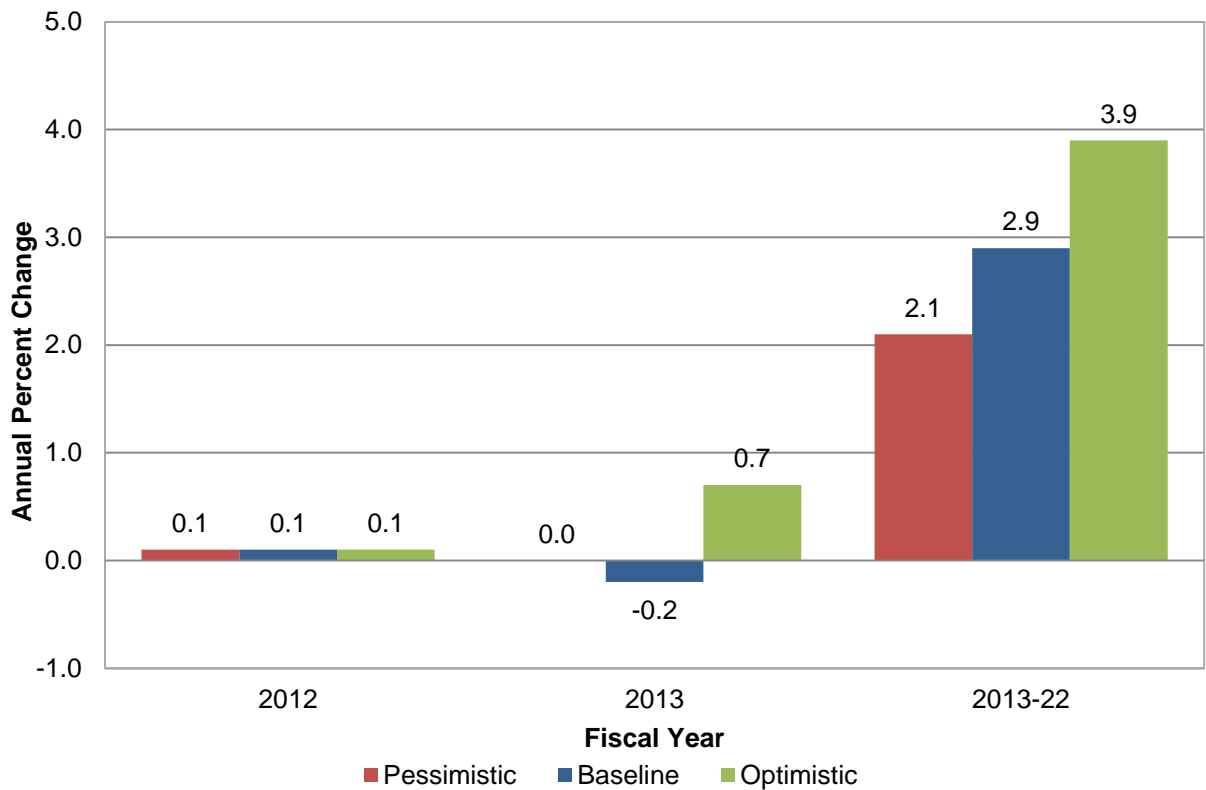


Available Seat Miles

In the base case, system capacity is forecast to increase an average of 2.9 percent annually over the forecast horizon (with growth averaging 2.2 percent annually in domestic markets and 4.4 percent a year in international markets). In the optimistic case, capacity grows at a faster clip than in the baseline forecast, averaging 3.9 percent annually (up 3.4 percent domestically and up 4.9 percent internationally). Carriers increase capacity compared to the baseline forecast to accommodate increased travel demand brought about by a more favorable economic environment and by the end of the forecast horizon, system capacity in the optimistic

case is 9.9 percent above the baseline case. In the pessimistic case, demand for air travel is lower than in the baseline, thus system capacity grows at a slower pace of 1.6 percent annually (domestic growth of 1.0 percent annually and international up 2.9 percent annually). Total system capacity in the pessimistic case in 2022 is 11.1 percent below the baseline and 19.1 percent below the optimistic case.

System Available Seat Miles



Load Factor

System load factors over the 10-year forecast period are relatively similar for all three forecast scenarios. In the base case, system load factor rises from 82.6 percent in 2012 to 83.9 percent in 2022. In both the optimistic and pessimistic scenarios, system load factor increases from 82.6 percent in 2012 to 83.4 percent and 83.8 percent, respectively, in 2022. In all three scenarios it is assumed that carriers will keep load factors on the high side by actively managing capacity (seats) to more precisely meet demand (passengers). The domestic load factor increases over the forecast horizon from 83.2 percent to 84.9 percent in the base case, and to 84.6 percent in both the pessimistic and optimistic scenarios. The international load factor grows from 81.3 percent in 2012 to 82.1 percent in 2022 in all three scenarios.

Yield

In the baseline forecast, nominal system yield increases 1.4 percent annually, going from 14.20 cents in 2012 to 16.32 cents in 2022. In domestic markets, yield in the baseline forecast rises from 14.00 cents in 2012 to 16.41 cents in 2022, while international yield rises from 14.68 cents in 2012 to 16.13 cents in 2022. System yield rises more slowly in the optimistic case, up 0.6 percent annually to be 15.28 cents at the end of the forecast period. Domestic yield increases to 15.08 cents while international yield increases to 15.69 cents. The slower growth in yield in the high case is due to advancements in technology, gains in productivity, more favorable fuel prices, and lower inflation. Increased competition is also assumed in this scenario. In the domestic market fares are driven lower than baseline levels due to increased market overlap between low cost and legacy carriers. In the international market, increased competition from growing liberalization puts downward pressure on fares. In the pessimistic case, nominal yields rise more rapidly than in the baseline, growing an average of 2.3 percent annually, reaching 16.87 cents by 2022 (16.88 cents domestically and 16.85 cents internationally). This scenario reflects higher general inflation and higher energy prices than in the baseline, forcing carriers to increase fares in order to cover the higher costs of fuel, labor, and capital.

TABLE A-1
FAA FORECAST ECONOMIC ASSUMPTIONS
FISCAL YEARS 2012-2022

Variable	Scenario	Historical	FORECAST				PERCENT AVERAGE ANNUAL GROWTH			
		2012E	2013	2014	2018	2022	2012-13	2013-14	2013-18	2013-22
Economic Assumptions										
Real Gross Domestic Product (BIL 05\$)	Pessimistic	13,537	13,622	13,670	15,085	16,298	0.6%	0.4%	2.1%	2.0%
	Baseline	13,528	13,764	14,118	15,809	17,445	1.7%	2.6%	2.8%	2.7%
	Optimistic	13,537	13,891	14,450	16,510	18,388	2.6%	4.0%	3.5%	3.2%
Refiners Acquisition Cost - Average - \$ Per Barrel	Pessimistic	102.8	84.2	79.0	106.0	118.5	-18.1%	-6.2%	4.7%	3.9%
	Baseline	102.7	90.9	86.8	91.9	104.4	-11.5%	-4.5%	0.2%	1.6%
	Optimistic	102.8	106.0	93.3	81.8	94.0	3.1%	-11.9%	-5.0%	-1.3%
Consumer Price Index All Urban, 1982-84 = 1.0	Pessimistic	2.29	2.31	2.34	2.57	2.85	1.1%	1.4%	2.1%	2.4%
	Baseline	2.29	2.32	2.36	2.54	2.74	1.4%	1.7%	1.8%	1.9%
	Optimistic	2.29	2.34	2.38	2.52	2.71	2.3%	1.9%	1.5%	1.7%
Civilian Unemployment Rate (%)	Pessimistic	8.3	8.0	8.6	7.4	7.3	0.0	0.1	0.0	0.0
	Baseline	8.3	7.8	7.5	5.9	5.5	-0.1	0.0	-0.1	0.0
	Optimistic	8.3	7.2	6.2	4.2	4.0	-0.1	-0.1	-0.1	-0.1

Sources: Baseline -IHS Global Insight, 30-Year Focus, Fourth Quarter 2012; Optimistic and Pessimistic - IHS Global Insight, U.S. Economic Outlook, January 2013

TABLE A-2
FAA FORECAST OF AVIATION ACTIVITY
FISCAL YEARS 2012-2022

Variable	Scenario	Historical	FORECAST				PERCENT AVERAGE ANNUAL GROWTH			
		2012E	2013	2014	2018	2022	2012-13	2013-14	2013-18	2013-22
System										
Aviation Activity										
Available Seat Miles (BIL)	Pessimistic	995.2	991.9	994.0	1,043.7	1,143.2	-0.3%	0.2%	1.0%	1.6%
	Baseline	995.2	993.5	1,020.8	1,151.5	1,286.6	-0.2%	2.7%	3.0%	2.9%
	Optimistic	995.2	1,002.6	1,055.7	1,264.7	1,413.6	0.7%	5.3%	4.8%	3.9%
Revenue Passenger Miles (BIL)	Pessimistic	822.3	823.1	827.3	872.3	957.6	0.1%	0.5%	1.2%	1.7%
	Baseline	822.3	826.0	851.6	964.8	1,080.1	0.4%	3.1%	3.2%	3.0%
	Optimistic	822.3	831.9	878.7	1,057.7	1,184.4	1.2%	5.6%	4.9%	4.0%
Enplanements (MIL)	Pessimistic	736.7	742.7	743.8	775.8	834.9	0.8%	0.1%	0.9%	1.3%
	Baseline	736.7	736.7	757.2	840.0	914.5	0.0%	2.8%	2.7%	2.4%
	Optimistic	736.7	748.0	789.3	929.8	1,008.3	1.5%	5.5%	4.4%	3.4%
Psg'r Carrier Miles Flown (MIL)	Pessimistic	7,033.0	7,057.2	7,052.9	7,296.7	7,909.9	0.3%	-0.1%	0.7%	1.3%
	Baseline	7,033.0	7,005.7	7,173.8	7,966.2	8,753.7	-0.4%	2.4%	2.6%	2.5%
	Optimistic	7,033.0	7,108.3	7,488.7	8,877.4	9,747.1	1.1%	5.4%	4.5%	3.6%
Psg'r Carrier Departures (000s)	Pessimistic	9,357.4	9,394.4	9,343.9	9,507.1	10,012.1	0.4%	-0.5%	0.2%	0.7%
	Baseline	9,357.4	9,240.4	9,424.4	10,212.9	10,850.0	-1.3%	2.0%	2.0%	1.8%
	Optimistic	9,357.4	9,486.9	9,912.5	11,307.6	11,964.1	1.4%	4.5%	3.6%	2.6%
Nominal Passenger Yield (cents)	Pessimistic	14.20	13.71	13.74	15.58	16.87	-3.5%	0.2%	2.6%	2.3%
	Baseline	14.20	14.36	14.51	15.42	16.32	1.1%	1.0%	1.4%	1.4%
	Optimistic	14.20	14.44	14.36	14.48	15.28	1.7%	-0.6%	0.1%	0.6%

TABLE A-3
FAA FORECAST OF DOMESTIC AVIATION ACTIVITY
FISCAL YEARS 2012-2022

Variable	Scenario	Historical	FORECAST				PERCENT AVERAGE ANNUAL GROWTH			
		2012E	2013	2014	2018	2022	2012-13	2013-14	2013-18	2013-22
Domestic Aviation Activity										
Available Seat Miles (BIL)	Pessimistic	694.4	698.7	698.0	707.1	764.4	0.6%	-0.1%	0.2%	1.0%
	Baseline	694.4	694.2	710.7	779.0	846.4	0.0%	2.4%	2.3%	2.2%
	Optimistic	694.4	698.7	742.2	877.6	946.0	0.6%	6.2%	4.7%	3.4%
Revenue Passenger Miles (BIL)	Pessimistic	577.6	583.5	584.6	596.1	646.8	1.0%	0.2%	0.4%	1.1%
	Baseline	577.6	581.7	597.2	659.1	718.6	0.7%	2.7%	2.5%	2.4%
	Optimistic	577.6	583.5	621.6	740.2	800.7	1.0%	6.5%	4.9%	3.6%
Enplanements (MIL)	Pessimistic	653.7	660.8	661.3	682.1	729.9	1.1%	0.1%	0.6%	1.1%
	Baseline	653.7	653.2	670.5	736.9	793.6	-0.1%	2.7%	2.4%	2.2%
	Optimistic	653.7	663.2	702.3	822.9	879.8	1.4%	5.9%	4.4%	3.2%
Psg'r Carrier Miles Flown (MIL)	Pessimistic	5,627.2	5,681.2	5,671.5	5,743.5	6,180.4	1.0%	-0.2%	0.2%	0.9%
	Baseline	5,627.2	5,600.8	5,725.4	6,247.6	6,745.4	-0.5%	2.2%	2.2%	2.1%
	Optimistic	5,627.2	5,681.2	6,025.4	7,087.5	7,608.9	1.0%	6.1%	4.5%	3.3%
Psg'r Carrier Departures (000s)	Pessimistic	8,743.8	8,780.1	8,731.0	8,837.1	9,280.9	0.4%	-0.6%	0.1%	0.6%
	Baseline	8,743.8	8,617.3	8,785.9	9,475.2	10,007.7	-1.4%	2.0%	1.9%	1.7%
	Optimistic	8,743.8	8,854.0	9,263.4	10,532.0	11,062.1	1.3%	4.6%	3.5%	2.5%
Nominal Passenger Yield (cents)	Pessimistic	14.00	13.39	13.42	15.61	16.88	-4.4%	0.2%	3.1%	2.6%
	Baseline	14.00	14.35	14.50	15.48	16.41	2.5%	1.0%	1.5%	1.5%
	Optimistic	14.00	14.48	14.30	14.26	15.08	3.4%	-1.2%	-0.3%	0.5%

TABLE A-4

FAA FORECAST OF INTERNATIONAL AVIATION ACTIVITY*

FISCAL YEARS 2012-2022

Variable	Scenario	Historical 2012E	FORECAST				PERCENT AVERAGE ANNUAL GROWTH			
			2013	2014	2018	2022	2012-13	2013-14	2013-18	2013-22
<u>International Aviation Activity</u> Available Seat Miles (BIL)	Pessimistic	300.8	293.3	296.0	336.6	378.8				
	Baseline	300.8	296.4	307.6	369.7	437.3	-2.5%	0.9%	2.8%	2.9%
	Optimistic	300.8	303.9	313.5	387.1	467.6	-1.5%	3.8%	4.5%	4.4%
Revenue Passenger Miles (BIL)	Pessimistic	244.7	239.6	242.7	276.1	310.9	1.0%	3.1%	5.0%	4.9%
	Baseline	244.7	242.1	252.4	303.3	358.8	-2.1%	1.3%	2.9%	2.9%
	Optimistic	244.7	248.3	257.1	317.6	383.7	-1.0%	4.2%	4.6%	4.5%
Enplanements (MIL)	Pessimistic	82.9	81.9	82.5	93.6	105.0	1.5%	3.5%	5.0%	5.0%
	Baseline	82.9	80.4	83.5	99.5	117.0	-1.3%	0.7%	2.7%	2.8%
	Optimistic	82.9	84.7	87.0	106.9	128.5	-3.1%	3.8%	4.4%	4.3%
Psg Carrier Miles Flown (MIL)	Pessimistic	1,405.7	1,376.0	1,381.4	1,553.2	1,728.6	2.2%	2.7%	4.8%	4.7%
	Baseline	1,405.7	1,351.2	1,393.0	1,658.3	1,944.1	-2.1%	0.4%	2.5%	2.6%
	Optimistic	1,405.7	1,427.0	1,463.2	1,789.9	2,138.2	-3.9%	3.1%	4.2%	4.1%
Psg Carrier Departures (000s)	Pessimistic	613.6	614.2	612.9	670.1	731.2	1.5%	2.5%	4.6%	4.6%
	Baseline	613.6	619.1	635.8	735.2	839.9	0.1%	-0.2%	1.8%	2.0%
	Optimistic	613.6	632.9	649.1	775.6	902.0	0.9%	2.7%	3.5%	3.4%
Nominal Passenger Yield (cents)	Pessimistic	14.68	14.50	14.50	15.54	16.85	3.1%	2.6%	4.2%	4.0%
	Baseline	14.68	14.44	14.59	15.34	16.19	-1.2%	0.0%	1.4%	1.7%
	Optimistic	14.68	14.35	14.49	14.98	15.69	-1.7%	1.1%	1.2%	1.3%
							-2.2%	1.0%	0.9%	1.0%